

8/11

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/620,419	FURUKAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tuan N. Nguyen	2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/08/2005.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

- Attachment(s)**
- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                    |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date <u>12/07/2005</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment  |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance                           |
|   | 9. <input type="checkbox"/> Other _____.   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below, to the amended claims 1, 5, 6, 7 should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview on November 07, 2005 with Mr. Justin J. Oliver (Attorney for Applicant, Reg. No. 44986).

1. (Currently Amended) An optical wavelength converting apparatus comprising:  
a first semiconductor laser;  
a second semiconductor laser; and  
a wavelength converting element for converting first laser light from said first semiconductor laser and second laser light from said second semiconductor laser to sum frequency light;

wherein there is provided an external resonator structure in inside which said first semiconductor laser and said wavelength converting element are arranged such that the first laser light ~~can be~~ is put under a resonant condition, and an optical path of the second laser light is so determined that the second laser light can propagate through said wavelength converting element without resonating, to form sum frequency light with the first laser light.

5. (Currently Amended) A picture projection type display apparatus comprising:  
a projection body; and

a light source for projecting light on said projection body, said light source

including an optical wavelength converting apparatus which includes a first semiconductor laser, a second semiconductor laser, and a wavelength converting element for converting first laser light from said first semiconductor laser and second laser light from said second semiconductor laser to sum frequency light, and in which there is provided an external resonator structure in inside which said first semiconductor laser and said wavelength converting element are arranged such that the first laser light ~~can be~~ is put under a resonant condition, and an optical path of the second laser light is so determined that the second laser light can propagate through said wavelength converting element without resonating, to form sum frequency light with the first laser light.

6. (Currently Amended) An electrophotographic image forming apparatus

comprising:

a projection body; and

a light source for projecting light on said projection body, said light source

including an optical wavelength converting apparatus which includes a first semiconductor laser, a second semiconductor laser, and a wavelength converting element for converting first laser light from said first semiconductor laser and second laser light from said second semiconductor

laser to sum frequency light, and in which there is provided an external resonator structure inside in which said first semiconductor laser and said wavelength converting element are arranged such that the first laser light ~~can be~~ is put under a resonant condition, and an optical path of the second laser light is so determined that the second laser light can propagate through said wavelength converting element without resonating, to form sum frequency light with the first laser light.

7. (Currently Amended) An optical wavelength converting method comprising the steps of:

generating first laser light from a first semiconductor laser;  
generating second laser light from a second semiconductor laser; and  
guiding the first laser light and the second laser light to a wavelength converting element to convert the first laser light and the second laser light to sum frequency light;

wherein there is provided an external resonator structure in inside which the first semiconductor laser and the wavelength converting element are arranged such that the first laser light ~~can be~~ is put under a resonant condition, and an optical path of the second laser light is so determined that the second laser light can propagate through the wavelength converting element without resonating, to form sum frequency light with the first laser light.

## REASON FOR ALLOWANCE

### *Allowable Subject Matter*

2. The following is an examiner's statement of reasons for allowance - with respect to claims 1, 5, 6, 7 the references of the record fail to teach or suggest an optical wavelength converting apparatus and optical wavelength converting method thereof:

**Claim 1, 5, 6, 7:**

A optical wavelength converting apparatus comprising a first and second semiconductor laser and a wavelength converting element for converting the first laser light from said first and second semiconductor laser to sum frequency light, wherein the first semiconductor and wavelength element are arranged inside another external resonator structure, such that the first laser light is put under a resonant condition, and wherein the optical path of the second laser light is so determined that the it propagate through the wavelength converting element without resonating, to form sum frequency light with the first laser light.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Communication Information**

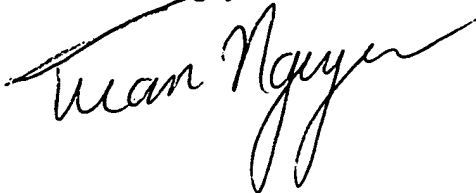
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (571) 272-1948. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harvey Minsun can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan N. Nguyen

A handwritten signature in black ink, appearing to read 'Tuan Nguyen', with a long horizontal stroke extending to the left.A handwritten signature in black ink, appearing to read 'Minsun Oh Harvey', with a large, stylized 'H'.

MIN SUN OH HARVEY  
PRIMARY EXAMINER